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## ABSTRACT

This report summarizes and analyzes the impact of a collaborative project joining Conestoga Valley Middle School and Millersville University (Pennsylvania). The project, part of the Keystone Integrated Framework Project, promoted partnerships between local schools and teacher education programs in Pennsylvania. This project was a 7-week, role playing simulation that integrated history, civics, geography, English, science, music, and the arts based upon national, state, and local school district curriculum standards. Participants, 128 eighth-grade students working in problem-solving teams of 10-12 students, confronted current societal problems in a simulated society. The teachers and student teachers acted as supervisors, university art students served as instructors in artistic method, and university microcomputer students documented the simulations. Each team researched a societal problem and proposed solutions; all team communication had to be done through the arts. The study findings revealed that the project's emphases on integrated curriculum strengthened the interdisciplinary nature of the middle school program, and led to creation of collaborative relationships with the university's art department. Two charts illustrate the steps to a positive university/school partnership and potential problems. The complete middle school interdisciplinary unit is included.  
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# Together Again : Preparing Creative & Caring Teachers



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**TOGETHER AGAIN: Preparing Creative & Caring Teachers  
via a School-University Interdisciplinary Curriculum Project**

**A Collaborative Project Joining**

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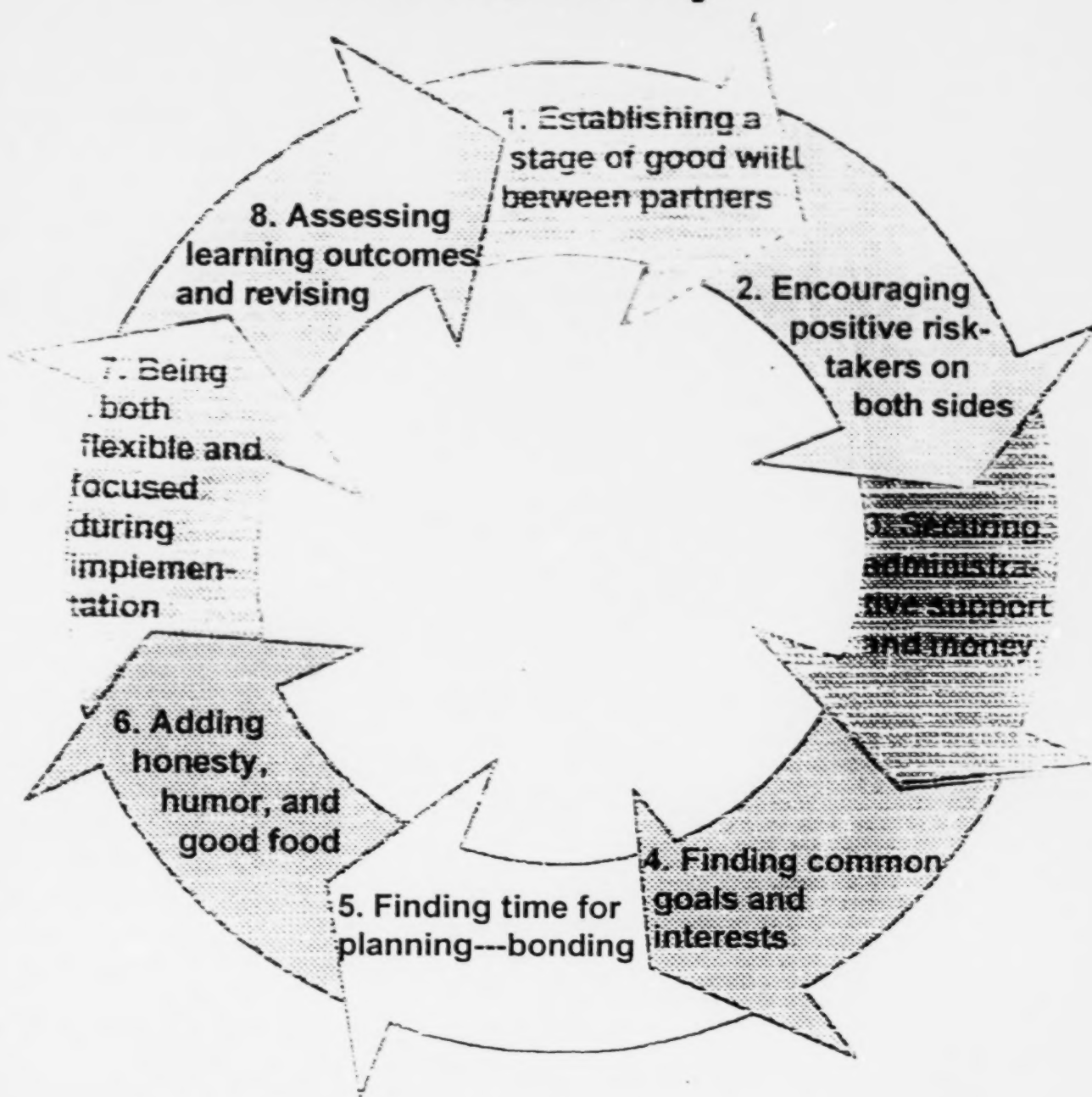
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# The Eight Steps to a Positive University/School Partnership



# Potential Problems

1. Frustration
2. Snow Days
3. Scheduling
4. Coordinating  
(School-University-State)
5. Curriculum
6. Personality Differences
7. Supplies & Materials
8. Unforeseen Difficulties
9. Space Problems
10. Uncooperative Kids



## **Description of Project and Impact on Teacher Education Program**

A Goals 2000 grant created the opportunity for collaboration by local schools and teacher education institutions on the preparation of teachers and interdisciplinary curriculum in Pennsylvania. Titled the Keystone Integrated Framework Project, the grant provided the funds for schools and teacher education institutions to work together to create multidisciplinary, integrated curriculum frameworks based upon the relationships among national content area standards in art, civics, English, geography, and history and upon Pennsylvania student learning standards in these areas. Using content standards as the guide for student achievement, the Keystone Framework also proposed that curriculum integration be used to develop student process and skills and that the arts be the keystone of the five areas. Through a competitive call for proposals, eleven school sites linked with higher education partners from teacher preparation institutions were selected. Local site planning, implementation, and evaluation of the project began in August 1995 and continued through May 1996.

This report summarizes and analyzes the impact this partnership had upon our teacher education program and our students. Since 1988 we have been intentionally rethinking and gradually redesigning our undergraduate preparation of secondary education teachers. The primary aim of the redesigned program is the development

of teachers as inquirers who 1) acknowledge themselves as an important source of generating knowledge about teaching and learning, and 2) are able to make responsive and responsible decisions about teaching and learning in the classrooms.

The redesign of our program has included 1) an alignment of course content to provide knowledge and experiences for students to develop as teachers as inquirers, 2) stronger pedagogical relationships with faculty and programs in the schools of the arts and sciences, 3) lengthened and enhanced field experiences during each stage of preparation, 4) meaningful collaboration with local schools, 5) the integration of computer technology into each stage, and 6) the development of a middle school teacher education program. The Keystone Project's emphasis on curriculum standards and goals for curricular integration were consistent with these aims and initiatives and also provided the impetus to improve our efforts.

Our local team included five middle school teachers in music, science, social studies, English, and learning support; three professors in the Department of Educational Foundations; one professor in the Art Department; and three groups of preservice teachers: four student teachers in science, mathematics, English, and social studies; 38 students in an art education methods bloc; and 24 art education students in the microcomputer course. Planning for the project occurred over a six month period and included several joint sessions of school and university faculty as well as separate sessions.

Our project was a seven week, role-playing simulation integrating history, civics, geography, English, science, music, and the arts based upon national, state, and local school district curriculum standards. One hundred and twenty, eighth grade students,

working in problem-solving teams of 10-12 students, confronted current societal problems in a simulated society. The middle school teachers and student teachers acted as supervisors, assessing the students' work and guiding the direction of the simulation. University art students instructed students in artistic method, and microcomputer students documented the simulation. Each team researched a societal problem, convinced the population of its habitat that the problem existed, and proposed solutions. All team communication had to be done through the arts, as established by the standards of the Keystone Project.

The weeks prior to the simulation caused many if not all of us from the university to wonder how we would juggle the schedule of our classes within an evolving project that might need some adjustments on a day to day basis. Since this was the pilot year of the project, no one, including the middle school teachers, had any degree of certainty regarding student cognitive, behavioral, and attitudinal outcomes. As university faculty, we had to loosen our grip on the control of our course content to follow the shape of the middle school teachers' day to day revisions in curriculum and scheduling planning. Our students also had to put their faith in our faith in the efficacy of the project and in the professional expertise of the middle school teachers. We each wondered about consequences during the first few weeks. Would our restructuring ship hit the rocks?

No way! With flexibility and trust, we all arrived at our destination, and the collaboration helped us to stretch our capacity for new relationships, insights, and enriched learning. First of all, the Project's emphasis upon integrated curriculum strengthened the interdisciplinary nature of our middle school program. The inclusion

of the arts in the content standards framework and its primary role, however, challenged us to go beyond our existing redesigned program to create collaborative relationships with the University's Art Department and to provide new experiences for art education students in the content and pedagogy of our microcomputer course. Using the arts as the keystone of the disciplines also enriched the field experiences of this course and that of our student teachers who learned to view the arts as a significant part of interdisciplinary instruction. Preservice students' expectations of middle school children, of integrated curriculum, and of the content standards changed positively. Hardly a siren song, the collaboration served rather as a beacon for improving our efforts in the restructuring of our teacher education program.

# Operation Keystone

A Middle School Interdisciplinary Unit for:  
History, Geography, English, Civics, Theater, Art, & Music  
(9 Weeks)

As we look at our world today, we see both bad and good. The bad takes many forms - crime, disease, pollution, drugs, toxic waste, government corruption, starvation, and natural calamities. Left untreated, these problems could spell disaster for all of us. Then we see the good - the problem solvers, the decision makers, the leaders of today and tomorrow. We all have a choice - do we chose to create the problems or to solve them?

In Operation Keystone, the students will become the problem solvers, the people in whose hands the future of the planet lies. They will examine problems in a simulated society of the future, research the historical background of the problem, and explore possible solutions. They will analyze, judge, persuade, discover, and create. They will realize that there are more ways to communicate than merely by writing and speaking as they explore the arts.

This simulation is not a prediction of the future but a window to allow our youth to look at the problems of our world and to examine ways to solve them. It will allow them to develop the skills of cooperation, decision-making, and communication that are so vital in our society.

## *Simulation Premise*

It is the year 2113 and the earth is dying. Man's neglect of the planet has pushed it and the human race to the verge of destruction, and something drastic must be done to save the world. Dr. Hamebooboo, a Nobel Prize-winning philanthropist, has overseen the construction of Operation Keystone, space habitats designed to support all remaining human life on the planet while the earth has a chance to heal. Unfortunately the humans took their bad habits with them to their new homes, and by 2147 the once pristine cylinders became plagued by the same problems that threatened to doom the earth - pollution, crime, drugs, disease, corruption, toxic waste, totalitarianism, and starvation. The brightest problems-solving minds in the universe - the students of 8 Blue - were called in to solve the problems. They must first research the problem and learn the historical background. The teams then must convince the residents of the cylinder that the problem is serious enough for them to change their lives, and then must propose solutions to the problem. The catch, however, is that the audience members whom they will address do not all understand spoken or written language; therefore, all communication must be done through art, music, pantomime, dance, or movement. As a final project, each student will present his individual research and his own view of the future of this cylinder once the problem has been solved. That presentation may take any shape - dance, speech, essay, art, movement, theater, or music.

*Procedure :* The students were divided into groups by the teachers within their English classes, since the bulk of the research and cooperative activities will be handled by the English teacher. The team carefully looked at leadership and cooperation qualities in selecting members of each group. The students, once grouped into problem-solving teams of five to seven students, were given detailed manuals which laid out specific tasks and objectives and a scenario for them to tackle. The scenarios explained the problems facing individual cylinders. The following pages represent a portion of that manual. Here are two sample scenarios :

### Cylinder 1 : Air Pollution

#### The Scenario :

The leaders of Cylinder 1 wanted to get rich quickly, so they built many factories with no regard to the environmental impact. The factories produced copious amounts of suffocating air pollution. The community knew about the problem but sanctioned it anyway because they profited from the lucrative industry. It provided jobs and gave them enough income to maintain wealthy lifestyles. The leaders soon realized how the air pollution could harm future generations and, rather than face the problems of the future, jumped ship and fled to Europa, a moon of Jupiter. The community doesn't understand what air pollution is and has no idea that the chemicals spewing into the air might harm them. They only know that the factories are making them wealthy right now and they must continue to operate them.

#### Research Topics :

Air pollution  
Water pollution  
Auto emissions

Industrial Revolution  
Global warming

### Cylinder 2 : Toxic Waste

#### The Scenario :

The leaders of Cylinder 2 built huge factories to produce fuel to generate power for the community. The manufacture of the fuel created toxic by-products that in the past had been shipped to an asteroid where they could be disposed. This, however, cost millions of dollars. If this step were eliminated, the leaders could sell their fuel for a much lower price, make their product much more competitive, and corner the market. The industry leaders decided to bury the toxic waste from their factories in the ground and dump it in lakes without telling their citizens of the consequences. When Hamebooboo discovered this, she removed the leaders promptly. The citizens know nothing about toxic waste or what it can do to the ground, the water, and eventually their health.

#### Research Topics :

Love Canal  
Ocean dumping  
Mines and runoff  
Fertilizer and its affect on the Chesapeake

Heavy metal poisoning  
Nuclear dumping  
Oil spills

*Assessment : Students were evaluated each day. Their manuals contained rubrics, such as these two, for each activity.*

#### Cooperation / Collaboration Rubric

- *Works toward the achievement of group goals*
  - 4 Actively helps identify group goals and works hard to meet them.
  - 3 Is committed to group goals and effectively carries out assigned roles.
  - 2 Is committed to group goals but does not carry out assigned roles
  - 1 Does not work toward group goals or actively works against them.
- *Demonstrates effective interpersonal skills*
  - 4 Actively and sensitively participates with and encourages the group.
  - 3 Participates in the group without prompting. Expresses ideas sensitively.
  - 2 Participates with urging or expresses opinions without regard to feelings.
  - 1 Does not participate in the group, even with urging. Expresses opinions and beliefs in a way that is insensitive to the feelings of others.
- *Effectively performs a variety of roles within the group*
  - 4 Effectively performs multiple roles within the group
  - 3 Effectively performs an important role within the group
  - 2 Makes an attempt to perform a role but has little success
  - 1 Rejects opportunities or requests to perform a role within the group

#### Music Creation and Performance Rubric

- *Development of melody and rhythm*
  - 4 Wide spectrum of pitches and note values combine in recognizable patterns over a longer composition
  - 3 Use of wide spectrum of pitches and note values in a shorter composition
  - 2 Use of wide spectrum of pitches, but limited note values
  - 1 Use of few pitches and limited note values
- *Coordination of melody and rhythm with text*
  - 4 Variety of rhythms and pleasing melody associated with appropriate syllabilization of text
  - 3 Appropriate alignment of pitch and rhythm with syllabilization of text
  - 2 Alignment of pitches with text but inaccurate rhythms
  - 1 Non-alignment of text with pitch and rhythms
- *Preparation of master copy*
  - 4 Production of clear, neat copy -- note values and appropriate music symbols are used
  - 3 Most notes drawn accurately and appropriate music symbols are used
  - 2 Inclusion of some musical symbols and accurate note values, some sense of organization
  - 1 Sloppy manuscript, incorrect note values, improperly placed musical symbols
- *Performance of musical composition*
  - 4 Highly accurate musical presentation; presentation made in dignified manner
  - 3 Presentation demonstrates strong sense of beat, most notes played accurately
  - 2 Performance includes many inaccuracies in rhythm and melody and displays a weak sense of beat
  - 1 Disorganized musical content and/or undignified posture in presentation

*Project : The project centered on four tasks. The students were given approximately one week to complete each one. Our block scheduling gave us the flexibility to create minischedules and student work periods, so classtime was not affected daily. After each task was completed, the students presented their findings, their artwork, and their music to the entire team in a large group assembly. There the presentations were evaluated by the teachers and the students.*

## Task 1

**Goal:** Students will research and cooperatively present an overview of the problem facing their cylinder. There will be two end products : an individual research report for civics and a five-minute group speech.

**Step A :** Gather data and answer each question. You will research the problem using the data bank and the school library. You may choose to use outside sources, such as the public library or your own magazines. Read the newspaper. Listen to television news. These problems are current ones and are constantly in the media. Talk to adults who may know details about the problem. Contact people whose jobs pertain to the topic. Be sure to write a bibliography for each source and document all information. Take notes carefully and precisely. Your completed answers make up the requirements for your civics assignment.

1. Define the problem. (What is it?)
2. Did the condition exist before 1900? Did it cause a problem then? What forms did it take? What caused it? Did people worry about it? Why or why not? Give examples.
3. Did it exist in the 20th century? Cite specific examples. What caused it? How serious was the problem? Were people worried about it? What other problems did it create?
4. Can you find a piece of art that portrays the problem such as a song, a poem, a book, a photograph, a play, a painting, or another piece of artwork? How has man expressed his concern for the problem in a form other than writing or speaking?
5. What efforts have private individuals or the government taken to solve the problem? Have their efforts been effective? How much money has it cost?

**Step B :** Compare notes and combine the data you have collected. What are the most important facts you have uncovered?

**Step C :** Compose a five minute speech to be delivered to the other problem-solving teams. Remember that another team will be investigating the same problem and presenting a speech about it also.

**Step D:** Deliver the speech. Each member must present some information.

## Task 2

Primary Mode: Visual - art, pantomime, action, theater, dance

Goal: There are two end products for this task. Using the research, the students, working cooperatively, will create and deliver a performance in which they convince their population that a problem exists. The performance must be primarily visual and may last no more than five minutes. Sound and movement may be used only as a support mode to set a mood. The second product, an individual effort for civics and English, requires the students to create a poster or write a persuasive essay in which they convince their population that a problem does truly exist.

Step A: Identify the visual modes that are most comfortable to the individuals in the group: pantomime, dance, painting, graphics, puppetry, sculpture, etc.

Step B: Determine what information in the research can be effectively presented in this mode.

Step C: Discuss the physical attributes of the problem researched. What does the problem look like? Think of breaking the "big idea" down into small parts that would be understood visually by an observer.

Step D: Plan some movement or art that illustrates each of those small parts.

Step E: Sequence the actions and/or objects into a logical progression that will convince the population that the problem exists and is serious.

Step F: Practice and adjust the presentation as needed.

### Task 3

Primary Mode: Auditory - a publishable piece of music that is presented in both the vocal and instrumental medium

Goal : The student teams will create and present a musical composition that offers a solution to the problem as researched by the team. For civics, each student will write an essay describing how the information he or she collected will be used to solve the problem.

Step A: Develop lyrics -- using information collected by the team, formulate a minimum of 4 to 8 lines of text to be set to pitch.

Step B: Determine melody -- utilizing tonebells, establish a series of pitches that compliment the text chosen.

Step C: Establish rhythm -- playing on bells, decide which rhythm best connects to the text and expresses the message effectively.

Step D: Select meter and/or key area -- through careful listening, determine basic pulse to name meter(s) and note key centers (need for accidentals).

Step E: Present initial product to team for input and suggestions. Group will decide which products will be adjusted or amplified for their presentation.

Step F: Prepare final copy of individual product.

Step G: Perform individual compositions in music class for peer/teacher evaluation.

Step H: Adjust individual compositions to accommodate medley presentation in large group.

Step I: Add instrumentation choices to those compositions selected by cylinder groups for large group presentations.

Step J: Decide each person's role in the performance -- keyboard, bells, band or orchestral instrument, percussion and vocal participation.

Step K: Practice planned presentation.

## Task 4

Primary Mode : Any mode as chosen by the student

Goal: Each student, using the information the team researched and the content of all performances, will present an individual performance for Hamebooboo's advisors depicting (a) the problem, (b) possible solutions, and (c) the future of the cylinder if the inhabitants choose to accept the proposed solutions. That performance may be followed by an interview during which the advisors will ask the presenter questions about his or her participation with the project.

Step A: Visualize the future of your cylinder once the proposed solutions are accepted and enacted.

Step B: Select the mode of presentation with which you are most comfortable.

Step C: Prepare a presentation using this mode. Your performance should be no more than five minutes in length. This presentation should show your understanding of the problem, your solution, and your vision of society if the solution is successful. This is an individual presentation. Your views may not necessarily be the same as those of other members of your team.

Step D: Be prepared to answer questions from the panel related to your role in Operation Keystone.

*Reflection : The students' manuals contained several journal and checklist pages, allowing for daily self-evaluation and reflection, important components of the unit.*

**Daily Session Evaluation Checklist**

Session Date \_\_\_\_\_

At what level did I ...

- |                          |                          |                          |                          |                                                       |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ...participate in my group to the best of my ability? |
| 1                        | 2                        | 3                        | 4                        |                                                       |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ...cooperate with my fellow group members?            |
| 1                        | 2                        | 3                        | 4                        |                                                       |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ...listen to the members of my group today?           |
| 1                        | 2                        | 3                        | 4                        |                                                       |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ...contribute to the group today?                     |
| 1                        | 2                        | 3                        | 4                        |                                                       |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ...bring all of my materials and supplies today?      |
| 1                        | 2                        | 3                        | 4                        |                                                       |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ...finish my journal entry for today?                 |
| 1                        | 2                        | 3                        | 4                        |                                                       |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | ...complete all the tasks given me today?             |
| 1                        | 2                        | 3                        | 4                        |                                                       |

1= Poor

2= Weak

3= Good

4= Excellent

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Teacher Initials

**Journal Entry**

Journal entry : \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
Session Date

\_\_\_\_\_  
Student Signature

\_\_\_\_\_  
Teacher Initials